Rare and Biogeographically Significant Vascular Plant Species of the Eden Region, South-eastern New South Wales: a Listing for the 'Fine-Filter' Approach

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Approaches to conservation based on high levels of biological organization must be complemented by a species level approach if rare and other significant species are to be adequately reserved. A listing of rare and biogeographically significant vascular plant species has been compiled for the Eden region using explicit selection criteria derived from accepted conservation goals. Thirteen species were endemic to the region, 40 rare or threatened in an Australia-wide context, 34 uncommon throughout their distribution, 6 restricted outside the Eden region, 279 uncommon within the region but common elsewhere, 8 depleted in the wild, 183 reaching their geographical limit of distribution in the Eden region, 23 represented in the Eden region by geographically disjunct populations, and 8 represented by ecologically disjunct populations. Species in these categories may be given different priorities for conservation, depending on the level of representation required.

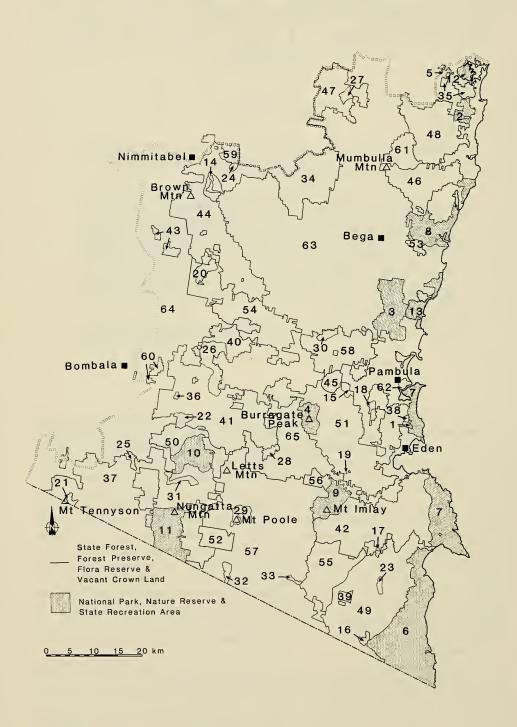
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INTRODUCTION

Conservation of representative samples of biota in reserves is an important aspect of conservation planning (Austin and Margules, 1986). If a reserve system is to represent the full range of a regional biota, reserves must contain samples of all species occurring in the region. The task of planning a representative reserve system is made difficult by the vast numbers of species and their complex distributions (Hunter et al., 1988) and requires an efficient system for data acquisition and land evaluation. One system is a multi-level approach using the analogy of 'coarse- and fine-filters' to capture maximum biological diversity within conservation reserves (Noss, 1987). The coarsefilter focuses on higher levels of biological organization; the aim is to represent samples of each community in reserves. A representative sample of communities, because of their predictable structure, composition and distribution, is expected to harbour the majority of species. Although the success of this approach would depend on how communities were defined, communities could not be expected to represent all species adequately, especially rare species or populations of more common species with particular significance (Keith and Sanders, 1990). A complementary approach, the fine-filter, uses a classification system designed to capture those species which 'fall through' the coarsefilter (Noss, 1987).

In Australia, classifications of rare plants on national (Briggs and Leigh, 1988) and state-wide scales (Rye and Hopper, 1981; Gullan et al., 1990) provide input for a fine-filter approach. Although these studies focussed on rare species, the conservation significance of populations which are unusual, outlying, geographically important or otherwise of special interest has also been recognized (Leigh et al., 1981). Regional



classifications have made some attempt to identify such populations (Forbes et al., 1981; Binns, 1987; Keith and Benson, 1988; Pressey et al., 1990).

The far south coast of New South Wales (Fig. 1) contains large areas of natural vegetation where land-use conflicts have arisen between conservation, timber harvesting and agriculture. A classification of plant communities (Keith and Sanders, 1990) provides a coarse filter for conservation planning and management in the region. This paper provides a complementary fine filter for vascular plant species of conservation significance.

METHODS

Significance Categories

Explicit criteria were adopted to classify species of special conservation significance. If the basic goal of conserving all species is to be achieved the categories must identify species whose rarity may allow them to be missed by coarse-filter approaches. Of primary concern are species for which the Eden region contains the major, if not the only opportunities for conservation. These include rare or uncommon species, as well as those common within the Eden region but restricted elsewhere. A regional coarse-filter approach may also miss species which are common outside the region, but uncommon within. Some of the significance categories were designed to address these different levels of rarity. Other categories were designed to identify species at the extremes of their geographical and ecological ranges. Although these species may be conserved elsewhere, their conservation within the region will ensure a more comprehensive representation of their genetic and ecological variability. The categories addressing these areas of conservation significance are described below. They are not mutually exclusive except where stated.

- 1. **Species endemic to the Eden region**, i.e. not known to occur beyond the study area (Fig. 1).
- 2. Rare or threatened Australian plants are listed on a national register (Briggs and Leigh, 1988) compiled in accordance with guidelines of the International Union for Conservation of Nature and Natural Resources (IUCN, 1980). Species are coded according to the perceived threat to their survival as rare, vulnerable, endangered or extinct and according to the extent of their distributions.
- 3. Species uncommon throughout their distribution have small populations scattered over a broad distribution. Although not considered nationally rare, some are rare or threatened in Victoria (Gullan *et al.*, 1990).
- 4. **Species restricted outside the Eden region**, regardless of their rarity within. These species are rare or threatened in Victoria, if recorded there at all.
- 5. Species uncommon within the Eden region, but common or widespread beyond.

Fig. 1. Map of the Eden region showing Nature Reserves (1 — Bellbird Ck, 2 — Bermagui, 3 — Bournda, 4 — Egan Peaks, 5 — Goura, 6 — Nadgee), National Parks (7 — Ben Boyd, 8 — Mimosa Rocks, 9 — Mt Imlay, 10 — Nalbaugh, 11 — Nungatta, 12 — Wallaga Lake), a State Recreation Area (13 — Bournda), Flora Reserves (14 — Brown Mountain, 15 — Jingera, 16 — Maxwells Creek, 17 — Narrabarba, 18 — Nethercote, 19 — Nullica, 20 — Nunnock Swamp, 21 — Tennyson Creek, 22 — Waratah Creek, 23 — Watergums Creek, 24 — Werrinook), Forest Preserves (25 — Bondi Gulf, 26 — Coolangubra Escarpment, 27 — Illawambra, 28 — Mt Pericoe, 29 — Mt Poole, 30 — Myrtle Mountain, 31 — Rockton, 32 — Waalimma Montain, 33 — Yambulla), State Forests (34 — Bemboka, 35 — Bermagui, 36 — Bombala, 37 — Bondi, 38 — Broadwater, 39 — Bruces Creek, 40 — Cathcart, 41 — Coolangubra, 42 — East Boyd, 43 — Glen Allen, 44 — Glenbog, 45 — Gnupa, 46 — Mumbulla, 47 — Murrabrine, 48 — Murrah, 49 — Nadgee, 50 — Nalbaugh, 51 — Nullica, 52 — Nungatta, 53 — Tanja, 54 — Tantawangalo, 55 — Timbillica, 56 — Towamba, 57 — Yambulla, 58 — Yurammie), vacant crown land (59 — Bega Swamp, 60 — Coolumbooka, 61 — Murrah, 62 — Pambula River) and freehold land (63 — Bega Valley, 64 — Monaro Tableland, 65 — Towamba Valley).

- Some may be rare or threatened in Victoria. Species were not listed in this category if listed in categories 1-4.
- 6. **Species depleted in the wild** occur in habitats which have been substantially lost, altered or threatened. They are not yet considered nationally rare or threatened, but a considerable proportion of their numbers persist in modified habitats where their long-term conservation cannot be guaranteed.
- 7. Species reaching the limit of their geographic distribution in the Eden region. This includes species which reach the limit of their main distribution in the Eden region, but which have small outlying populations further afield (i.e. local distributional limits).
- 8. Species with geographically disjunct populations in the Eden region.
- 9. Ecologically disjunct populations occupy a habitat atypical for their species.

Data Acquisition

A preliminary list of species satisfying the significance categories was compiled from the site data (0.04ha quadrats) of Keith and Sanders (1990) and floristic lists collated by Binns (1987). These species were further investigated by checking the records of local vegetation surveys (Brechwoldt, 1979; Clarke, 1989; Dodson et al., 1989; Fanning and Mills, 1989; Fanning and Rice, 1989; Garvin, 1982, 1984; Gilmour, 1983), searching the taxonomic literature (Telopea, Brunonia, etc.) and searching herbarium records held at the National Herbaria of New South Wales (NSW) and Victoria (MEL), Herbium Australiense (CANB) and the National Botanic Gardens (CBG). The forestry herbarium at Eden (EFC) was not searched directly; however, the records it contains were obtained from other sources (e.g. Binns, 1987; Fanning and Mills, 1989). A list compiled from these sources was circulated for comment to 30 botanists including taxonomic specialists and vegetation surveyors with experience in the Eden region. Their comments yielded extra localities, additional species and deletions. Additional species were investigated in herbaria, survey records and the literature. The conservation status of each of these species in Victoria was checked by consulting Gullan et al. (1990).

To reduce subjectivity and maintain consistency in decisions, operational rules were adopted.

- i) Species were included on the list only if their presence in the region was substantiated by a specimen lodged in a herbarium or checked by the author. Other records of these species were then included unless shown to be incorrect. This rule excluded some unusual records from species lists which remain unconfirmed or which were shown to be erroneous.
- ii) Species were recorded as uncommon within the region if known from four or less localities. This represents a minimal frequency of occurrence in the thirteen hundred quadrat records and species lists available for the region and supplemented by over a century of botanical collections. Comparable, though less conservative selection rules were applied in regional studies of Forbes *et al.* (1981) and Binns (1987). Species with four or less records were not considered regionally uncommon if they were under-represented in survey records and herbarium collections because of their inconspicuous habit or poorly surveyed habitat. This applied to some geophytes and freshwater aquatics. Species with more than four records were considered regionally uncommon if their records were known to represent small populations.
- iii) Species were at the limit of their distribution in the Eden region if herbarium collections, the taxonomic literature and survey literature from adjacent regions

(Adams and Craven, 1976; Forbes et al., 1981; Mills, 1989) yielded no records further afield.

iv) Populations were geographically disjunct if the nearest record was over 100km away.

RESULTS

The list of species with special conservation significance is given in the Appendix. Table 1 gives a break-down of species in each category. It is planned to publish details of site records, herbarium specimens, literature searched and botanists' comments. Of over 600 taxa investigated 425 satisfied one or more of the significance categories. About half the 40 nationally rare or threatened species (Category 2) were concentrated in two main areas (Fig. 2): 13 occurred on rhyolite outcrops in the Yowaka River — Narrabarba Hill area, of which 7 are locally endemic; and 8 occur on Nalbaugh Plateau — Wog Wog Mountain, of which one is locally endemic. Dr George Mountain, Mt Imlay, Jingera Rock and Mt Poole also support several rare or threatened species. Three of the 13 endemic taxa (Category 1) are not currently included on the listing of rare or threatened Australian plants (Briggs and Leigh, 1988). A further 7 species have distributions extending just beyond the Eden region (Category 4), including 4 rare or threatened species.

TABLE 1

Number of species satisfying each selection criterion

Sel	ection criterion	Number of Species
1.	Locally endemic	13
2.	Rare or threatened in Australia	40
3.	Uncommon throughout species distribution	34
	- and rare or threatened in Victoria (3v)	(6)
	- not rare or threatened in Victoria (3)	(28)
4.	Restricted outside the Eden region	7
	- and rare or threatened in Victoria (4v)	(2)
	- not recorded in Victoria (4)	(5)
5.	Uncommon within the Eden region	279
	 and rare or threatened in Victoria (5v) 	(34)
	- not rare or threatened in Victoria (5)	(245)
6.	Depleted in the wild	8
7.	Limit of geographic distribution (tota)	183
	- northern limit (7N)	(38)
	- southern limit (7S)	(137)
	- local northern limit (7LN)	(5)
	- local southern limit (7LS)	(3)
8.	Geographically disjunct population	23
9.	Ecologically disjunct population	8

Note: Criteria are not mutually exclusive. Numbers in parentheses are subtotals within categories. Significance codes are those used in the Appendix.

Thirty-four species were classified as uncommon throughout their distribution (Category 3), including 6 regarded as rare or threatened in Victoria. Category 5 was the largest with 279 regionally uncommon taxa, of which 34 were listed as rare or threatened in Victoria (Gullan et al., 1990). About two-thirds of these were not listed under any other category, including a number of subalpine species at the lower end of their altitudinal range. Most of the remainder were at the edge of their distribution (Category 7). Regionally uncommon taxa were concentrated in heath and woodlands of

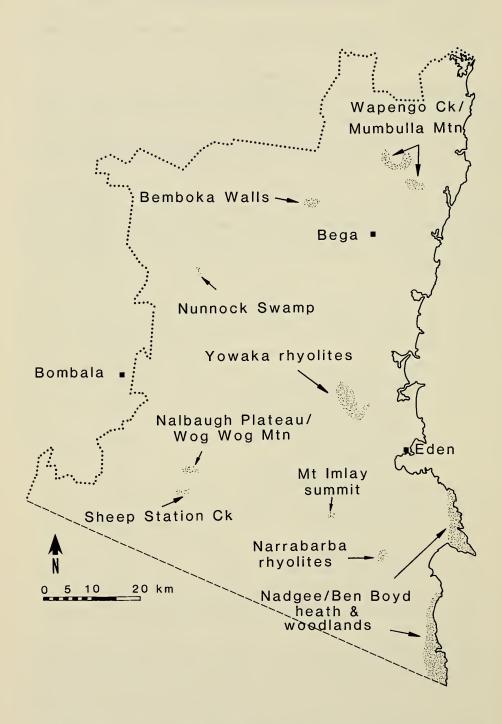


Fig. 2. Map showing concentrations of rare and biogeographically significant plant species.

Nadgee Nature Reserve and Ben Boyd National Park, Nunnock Swamp, along Sheep Station Creek and on rhyolite outcrops (Fig. 2).

Rabinowitz (1981) proposed a typology of rare species based on geographic range, habitat specificity and local population size which may be applied to rare or uncommon taxa in categories 1-4 (Table 2). Most of the endemic rhyolite flora and several mountain endemics are sparse, geographically restricted and limited to specific habitats. Some geographically restricted species attain relatively large populations, while some with specific habitats extend over quite large geographic ranges. However, there were relatively few species with small geographic ranges and broad habitat specificity. Myoporum bateae, ranging from the tableland escarpment to the coast, and Personia brevifolia, spanning several hundred metres in elevation, may be examples with relatively large and small local populations, respectively. Rabinowitz (1981) made a similar observation amongst rare flora in North America, suggesting demographic stochasticity as a mechanism by which habitat specificity may be narrowed, pushing such species to the right of Table 2. Alternatively, they may be pushed to the left of Table 2 if their rate of dispersal to like habitats is greater than the rate of genetic diversification allowing establishment in new habitats.

TABLE 2

Examples of different types of rarity (after Rabinowitz, 1981)

Geographic Range:	Large		Small	
Habitat Specificity:	Wide	Narrow	Wide	Narrow
Local Population Size				
Large	Common species	Burnettia cuneata Boronia deanei Eucryphia moorei	Myoporum bateae Acacia georgensis	Acaacia constablei Daviesia suaveolens Eucalyptus badjensis
Small	Cryptostylis hunteriana	Botrychium australe	Persoonia brevifolia	Phebalium ralstonii
	Hovea beckleri	Phebalium carruthersii	Pomaderris brogoensis	Eucalyptus imlayensis
	Pseudanthus divaricatissimus	Mitrasacme serpyllifolia		Caladenia sp. aff. fitzgeraldii

Of the eight species depleted in the wild (Category 6), five were trees or herbs whose habitat has been extensively modified by agricultural clearing and three were epiphytic orchids potentially threatened by collectors. Since agricultural areas have been poorly surveyed, there are undoubtably more species whose populations have been substantially depleted.

One hundred and eighty-three species reached their known limit of distribution in the Eden region (Category 7). The majority of these (137) reached their southern limit, including a number of rainforest taxa in the forests north of Bega and sclerophyll shrubs in heath and woodland south of Eden. Most of the 38 taxa reaching their northern limit occur in the southern part of the study area. Some of these species (e.g. Diuris corymbosa, Pomaderris elachophylla) could equally be interpreted as reaching eastern limits since their distributions are trans-temperate.

The excess of species reaching southern limit over those reaching northern limit illustrates a latitudinal trend in vegetation of south-eastern Australia (Keith and Sanders, 1990). The species listed show that the sclerophyll flora as well as the rainforest flora (Webb et al., 1984) becomes impoverished with increasing latitude.

Twenty-three species are represented in the Eden region by geographically disjunct

populations (Category 8). These occurred mainly on rhyolite outcrops around Yowaka River and on mountain peaks including Mt Imlay and Nalbaugh Plateau. Eight species have ecologically disjunct populations including three coastal occurrences of predominantly inland species, two non-coastal occurrences of littoral species, one low altitude occurrence of a tableland species, one montane occurrence of a coastal species and one species on an uncharacteristic soil type.

DISCUSSION

The typology of Rabinowitz (1981) offers some guidelines for conservation and management of rare species. The size of geographic range will influence the cost of conserving rare species. Although there may be more opportunities for reserving species with broad geographic ranges, more reserves would be required to represent these species thoughout their range compared with those with more restricted geographic occurrence. Habitat specificity has an important influence on the cost effectiveness of biological surveys. Species with narrow habitats could be searched for more efficiently than those with broader, less predictable habitats. Special purpose surveys for species with narrow habitats would therefore be profitable. For species with broad habitats, survey effort might be better directed into general purpose surveys which cover a broad range of environments. Such decisions pre-suppose the existence of sufficient data to determine (at least in rough terms) the habitat specificity of the species involved.

The sizes of local populations also have implications for the management of rare species. An understanding of population dynamics and the role of disturbance may be most critical for species with small populations, since small fluctuations may lead to local extinctions. On the other hand, large populations may fluctuate widely, depending on the life cycle attributes of the species. There have been mechanisms demonstrated by which large populations may be driven to extinction in a very short period of time (Noble and Slatyer, 1980). Further complications to the study of rare species characterized by small populations include the difficulty of obtaining adequate replication and the concern that manipulative experiments (which often provide the best understanding of ecological responses) may cause significant reductions in species' numbers.

Changes in rarity through time (Harper, 1981) were not examined in this study. However, it may be assumed that species with limited geographic ranges and specific edaphic habitats, such as rocky rhyolite outcrops, have probably always been so, even though their local abundance may vary in response to disturbances such as fire. However, the availability of some currently restricted habitats may change in response to climatic fluctuations. For example, rare species of swamps (e.g. Boronia deanei) and rainforests (e.g. Eucryphia moorei) may have been both more locally abundant and more geographically widespread in wetter times.

The large number of regionally uncommon species is a consequence of the lognormal species-abundance distribution of the regional flora (Fig. 3). Three hundred and thirty-eight species (44% of total) were recorded in less than 4 of 369 quadrats (i.e. <1%) in the survey of Keith and Sanders (1990). Over 200 additional species known to occur in the region were not sampled in any quadrats. Margules and Usher (1981) point out that sample data from many different groups of organisms conform to this model, a recent example being the abundance distribution of rare species in the flora of the southern Appalachians (Miller and Wiegert, 1989). Thus, any reasonably large regional biota could be expected to contain a large proportion of uncommon species.

The large number of species listed and their relatively even distribution throughout the study area have implications for the cost of their conservation. Clearly, not all categories are of equal priority for conservation. Locally endemic and nationally rare or

threatened species must receive the highest priority since opportunities for their conservation are most limited. Species listed only as regionally uncommon (Category 5) are perhaps the lowest priority since they may be expected to be conserved by coarse-filter approaches in other regions.

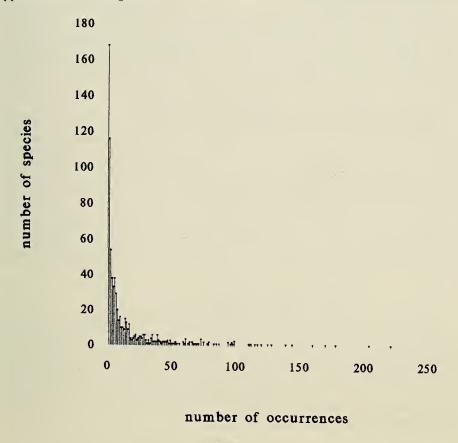


Fig. 3. Species-abundance distribution showing a large number of uncommon species (i.e. occurring in a small number of quadrats) and a small number of common species in the Eden regional flora. Data from Keith and Sanders (1990).

Nevertheless, there are strong arguments for conserving representative samples of species throughout their geographic and ecological ranges. Geographic and ecological variation in gene pools has been demonstrated within a wide range of species throughout the world (Heslop-Harrison, 1964; Brown, 1978; Hamerick, 1983; Moran and Hopper, 1983; Bramwells and Whiffin, 1984; Mackay and Morrison, 1989). Further, the same species may perform different ecosystem roles in different geographic locations where its interactions may involve different competitors, predators and pathogens. Reservation of narrow samples of species' distributions therefore may not represent their full genetic diversity, nor the full range of ecological processes in which they are involved. Representation would be improved by inclusion of outlying populations and those at the extremes of species' distributions. Such populations may yield important data for research in the fields of autecology, biogeography and bioclimatic history. Species depleted in the wild also warrant attention because even though they may

presently be common on farmland or wasteland, seedling recruitment may be limited by grazing, soil compaction, weeds, etc. Stands of natural vegetation containing these species are therefore valuable for long term conservation as well as for ecological studies of natural patterns and processes.

A fine-filter approach to conservation planning using the significance categories applied in this study would clearly result in a more representative reserve system than one which includes only the rarest species. However, there is an obvious trade-off between representativeness and cost. Work is in progress to find the most efficient solution to this problem by identifying a minimum set of areas which contain a fully representative complement of the region's biota. The role of the fine-filter in this work is to identify areas where poorly represented species of conservation significance are concentrated. The Yowaka area is outstanding in this regard.

The listing is constrained by the availability of data which, although substantially increased in recent years, are relatively modest compared to those available for East Gippsland to the south. With more data, the listing will undoubtedly change and updated versions will be published in due course. Perhaps most changes will occur in the regionally uncommon category as unsubstantiated records of many species are verified in future by herbarium specimens, while others are shown to be more common. Although decisions to include or exclude species from the listing involve some subjectivity, I have tried to minimize this by using explicit significance categories and operational rules, and by testing the classification with the opinions of other botanists. Criteria 6 and 9 have been applied very conservatively. A greater understanding of ecological relations may indicate more species are worthy of these classifications.

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APPENDIX

List of rare and biogeographically significant vascular plant species in the Eden Region

Numbers in parentheses refer to areas of land shown in Fig. 1. Where a locality spans two or more such areas, their numbers are separated by a comma. Where the record of a locality is imprecise and could belong to two or more areas, their numbers are separated by a slash. Question marks indicate the precise locality of the record is uncertain. Where a significance category is marked by an asterisk, this refers only to the locality marked with an asterisk. If the locality of a distributional limit is from an old or imprecise record, the nearest precise locality is given in square brackets. Place names are shown on 1:25,000 topographic maps (NSW)

roads or watercourses indicate the locality is at their intersection. Where place names are separated by a dash, the locality is between these places.

Abbreviations: Ck - Creek; Mtn - Mountain; Stn - Station; Rd - Road; Hwy - Highway; N - North; S - South; E - East; W - West.

Categories of Significance

- 1. Endemic to Eden region
- 2. Rare or threatened in Australia, codes of Briggs and Leigh (1988) given in parentheses
- 3. Uncommon throughout species distribution, not rare or threatened in Victoria
- 3v. Uncommon throughout species distribution and rare or threatened in Victoria
- 4. Restricted outside the Eden region, not recorded in Victoria
- 4v. Restricted outside the Eden region and rare or threatened in Victoria
- 5. Uncommon within the Eden region, not rare or threatened in Victoria
- 5v. Uncommon within the Eden region and rare or threatened in Victoria
- 6. Depleted in the wild
- 7N. Northern limit of geographic distribution
- 7S. Southern limit of geographic distribution
- 7LN. Local northern limit of geographic distribution
- 7LS. Local southern limit of geographic distribution
- 8. Geographically disjunct population
- 9. Ecologically disjunct population (atypical habitat)

Species	Significance	Localities
Acacia aculeatissima	7N	Bimmil area (51)
Acacia constablei	1,2(2V)	Narrabarba Hill & nearby ridges (17)
Acacia costiniana	2(3RCa),7S,8	Nalbaugh Plateau (10)
Acacia elongata	7S	White Rock River (37)
Acacia georgensis	1,2(2VCi)	Dr George Mtn (8,53), Kianniny Bay (13)
Acacia gunnii	5	Sheep Station Ck (31), White Rock River (37), Laings Rd (37), western Bondi (37), Wallagaraugh River/Yambulla Trail (57)
Acacia irrorata sp. irrorata	5v	Bermagui (1), Dignams Ck-Wallaga Lake (5,12), Wog Wog Rd (37), Cuttagee Ck (48), Quaama (63)
Acacia lanigera	5	White Rock River (37), Wallagaraugh River/Imlay Ck (57)
Acacia maidenii	5v	1km N Grassy Hill (5), Bunga Head (8), Picnic Pt (8), Dig- nams Hill-Wallaga Lake (12), 2.2km ESE Big Jack trig (65)
Acacia mucronata	7N	Tantawangalo lookout (54), near Rats Valley Rd/Chalkhills Rd
Acacia oxycedrus	5,7LN*	Mt Nadgee (6,49)*, Mt Victoria (6), W of Impressa Moor (6)
Acacia pycnantha	5,9	Nelson Lagoon (8), Mumbulla (46), Cuttagee Ck (48), Black Fellows Lagoon (63) — coastal localities
Acacia rubida	5	Jingera Rock (4), Genoa River (11), 16km N Timbillica (55), Quaama (63), Bermagui
Acacia silvestris	5,7LS*	Mumbulla Mtn (46), Brogo Pass (61), Wolumla Peak (58)*, Quaama (63)
Acacia subporosa	4v,7N*	Sandy Beach Ck catchment (3), Jellat Jellat Ck catchment (3), S gullies of Black Range (3), head of Wirra Birra Ck (6), Disaster Bay (6), Tumbledown Mtn (6), Tabletop Mtn (6), Mt Victoria (6), Nadgee River flats (6), Wapengo Lagoon (8), Bengunnu Pt (8), 1.5km W Tathra Rd/Neilsen Rd (8), Aragunnu Ck (8)*, Nethercote Falls (18), Mt Nahgi (49), Bimmil area (51), Palestine Ck (51), Yellow Pinch (58), 5km N of Pambula, Pambula-Eden, Quarantine Bay
Acacia subtilinervis	2(3RCa)	Nethercote Falls (18), Yowaka-Old Hut rhyolite outcrops (15,47,51), Bemboka Walls (34)
Acacia vestita	5	Imlay Rd (57), Candelo (63), 'Colombo' (63)
Acaena ovina	5	Big Jack Mtn (41), Mt Pericoe (28), Pooles Gully (57)
Acianthus fornicatus	7S	Rhyolite ridge S of Narrabarba (17)
Acrotriche leucocarpa	3	Wog Wog Mtn (10), 0.5km SSW White Rock Mtn (10), Compartment 1328 (41), Pheasants Peak (41), Wattle Rd (46), Nalbaugh (50)

Species	Significance	Localities
Actinotus gibsonii	3,7S,8	Heath near Bombala (?37,41,60)
Actinotus helianthi	5,7S*	Mt Imlay summit (9)*, Tura Beach (13)
Adriana glabrata	5	'Willeroo' (65)
Aegiceras corniculata	7S	Merimbula
Agrostis sp. 'hiemalis'	5	Dragon Swamp (20), Nitens Rd (46)
Alectryon subcinereus	5v	S gullies of Black Range (3), Bunga Head (8), Wapengo Ck (46), Rocky Hall (41,65), Yellow Pinch (58), Bega River (63)
Allocasuarina diminuta ssp. annectens	5,7S,8	Wallagaraugh River/Imlay Ck (57)
Allocasuarina distyla	5,7S*	Green Cape (7)*, Nelson Lagoon (8), upper Genoa River (?37)*
Ammobium alatum	5	Bega (63), Cobargo (63), Nungatta Stn
Amphipogon strictus	5	Tumbledown Mtn (6), Sheep Station Ck (31)
Amyema congener	5,7S*	Bega area (63), 'The Breakaway' Bermagui, Merimbula*
Apalochlamys spectabilis	3,7N*	Cape Howe (6), Yambulla catchments (57)*
Aphanopetalum resinosum	7S	Wally Newtons Inlet (6), Watergums Ck (23)
Aristida vagans	7S	Upper Sheep Station Ck (31)
Arthropteris tenella	5,7S*	Bunga Head (8), Broadwater (38)*
Asplenium australasicum	5,7S	Bunga head (8), Murrah River tributary (61)
Asterolasia asteriscophora	5	Genoa River gorge (11)
Astroloma pinifolium	5	Nelson Beach (?8/63), S end Gallery Rd (55) experimental plot (57)
Astrotricha asperifolia	5	Northern Yambulla (57)
Astrotricha sp. aff. longifolia	5	Mt Victoria (6), Watergums Ck (23)
Atherosperma moschatum	5	Nalbaugh Plateau (10), Brown Mtn (14), Brown Mtn Ck (24), western Bondi (37), Compartment 2304 (46)
Backhousia myrtifolia	7S	Wapengo Ck (46)
Baeckea denticulata	2(3RCa),7S	Coolumbooka Range (41,60)
Baeckea ramosissima ssp. prostrata	5	Impressa Moor (6), 2km N Little River (6), Saltwater Ck (7), near Green Cape (7)
Banksia paludosa	7S	Nadgee Lake (6)
Banksia spinulosa var. cunninghamii	7LN	Mt Imlay summit (9), Green Cape Rd (42)
Banksia spinulosa var. spinulosa	7S	Broadaxe Rd/Bingera Rd (57)
Beyeria viscosa	5v	Wog Wog Mtn (10), Neenah Gorge (11)
Blechnum chambersii	5	Nadgee (6), Neenah Gorge (11), Nungatta homestead
Boronia deanei	2(3VCa),7S,8	Nalbaugh Swamp (10)
Boronia nana var. hyssopifolia	5	Nunnock Swamp (20), Bondi Gulf (25)
Boronia polygalifolia	5	Pambula River (62)
Boronia rigens	5,7S	Yowaka-Old Hut Ck rhyolite outcrops (47), hill E of Bombala (64)
Botrychium australe	3v	Sheep Station Ck (31)
Brachyscome cardiocarpa	5	Surveyors Gully (11), Nunnock Swamp (20), Dragon Swamp (20), Waratah Ck (22)
Brachyscome scapigera	5	Head of Reedy Ck (41), Knox Valley (?54), Yambulla Flat (57)
Breynia oblongifolia	7S	Nadgee (6)
Brunoniella pumilio	5v	Nelson Lagoon (8), Goats Knob Rd/Neilsen Rd (8)
Burnettia cuneata	2(3RC-),8	Top Moor (6)
Caladenia congesta	5	Nadgee area (6), Nungatta (11), Yambulla (57)
Caladenia deformis	5	Nadgee area (?6/49), headland S of Woodburn Ck (7)
Caladenia tesselata	2(3V)	Genoa River (?11/25/37)
Caladenia sp. aff. fitzgeraldii	3,7N	3km W Wonboyn (49)
Callitriche muelleri	5	Maxwells Ck (16)
	0	Waxwells Ck (10)

Species	Significance	Localities
Calotis glandulosa	2(3VC-),7S	Mt Imlay (9), nth Rockton section (37)
Cardamine lilacina	5	Reedy Ck (41), E of Bombala
Carex declinata	5,7S*	Letts Mtn (57)*, 11 km WNW Cobargo (?47/63)
Carex fascicularis	5	Sheep Station Ck (31), Narrabarba Ck/Wonboyn Rd (42/49)
Carex polyantha	5	Taskers Flat (37), Tantawangalo Ck (46), Smiths Rd/Lizard Rd (46), Murrah River tributary (61)
Cassia odorata	5,7S	Near Dr George Mtn (8), Tanja
Cassinia aureonitens	5,7S,8	Nethercote Falls (18)
Cassinia cunninghamii	5,7S,8	Bermagui-Eden area near coast
Cassinia uncata	5	Merrica River crossing (6), sth Ben Boyd (7)
Casuarina cunninghamiana ssp. cunninghamiana	5,7S*	1km SE Boundary Bridge (5), Narira Ck (12), Murrah River tributary (61)*, Brogo River (63)*
Casuarina glauca	5,7S	Wallaga Lake (12)
Caustis recurvata	5,7S	Merrica River Rd (49), Yambulla catchments (57)
Celastrus subspicatus	5,7S,8	2km W Mogarika Inlet (63)
Celmisia longifolia	5	Bega Swamp (59)
Centipeda minima	5	Nadgee (6), Sheep Station Ck (31), Big Jack Mtn (41), Walla Walla trail (57)
Cheilanthes distans	5	Mt Pericoe (28), Yowaka-Old Hut rhyolite outcrops (51)
Choretrum candollei	7S	Falkner Ck/Indigo Ck (57)
Chorizema parvifolium	3,6,7S	Bega area (63)
Cissus antarctica	5,7S	Ganes Bay (13)
Citriobatus pauciflorus	7S	Wapengo Ck (46)
Claoxylon australe	7S	Rocky Hall trail (41)
Clematis microphylla var. leptophylla	5	2.5km NW Burragate Peak (4), Lake Nadgee Beach (6), Cape Howe (6)
Comesperma retusum	5	Nunnock Swamp (20), Sidlings Swamp (55)
Comesperma sphaerocarpum	5,7S	Wonboyn Rd (?42/49)
Correa baeuerlenii	2(2VCi),7S*,8	Bunga Head (8), 1km E Mumbulla Mtn (46), Wapengo Ck (46)*, Murrah River tributary (61)
Cotula alpina	5	Dragon Swamp (20), Tantawangalo Mtns (54)
Craspedia sp. 'L'	5	Nunnock Swamp (20)
Cryptandra amara var. longiflora	5	Narrabarba Hill (17), Imlay Ck/Imlay Rd (57), Yambulla catchments (57)
Cryptandra ericoides	5v	Impressa or Nadgee Moor (6), Green Cape (7), Bingera Rd area? (57)
Cryptandra scortechinii	5,7S	Bermagui
Cryptostylis hunteriana	2(3VC-)	Nadgee (6), Mowarry Track (7), Nethercote Falls (18)
Cyathea leichhardtiana	5v	Head of Nadgee River (6), heads of Royds & Maxwells Cks (16), Watergums Ck (23)
Cyathea marcescens	3v,7N	Head of Maxwells Ck (16)
Cymbidium suave	7S	Goats Knob Rd/Neilsen Rd (8)
Cyperus gunnii	5	Kiah River (65), Wallaga Lake, Boydtown Rd, Narrabarba
Cyperus lhotskanus	5	Eden-Pambula
Cyperus sanguinolentus	5	Nadgee (6), Nethercote Falls (18), Mumbulla (46), Boydtown
Danthonia eriantha	5	Nunnock Swamp (20)
Danthonia setacea	5	Impressa Moor (6), Wally Newtons Inlet (6), Sidlings Swamp (55), Middle Head-Eden
Davallia pyxidata	5,7LS*	Bemboka Walls (34), Yowaka-Old Hut rhyolite outcrops (51)*
Daviesia acicularis	5,7S*	4km W Saltwater Ck (7)*, Yowaka-Old Hut rhyolite outcrops (51)
Daviesia alata	5,7S*	Near Green Cape (7), near Narrabarba (42)*
Daviesia corymbosa	5,7S*	Green Cape (7)*, nth Rockton section (37), East Boyd -E of Hwy (42)*, 1.4km W Tathra (63)
Daviesia suaveolens	2(3RCa),7S	Pigeon Box Mtn (34), Mistake Trail (34)
Daviesia wyattiana	5v	Yowaka-Old Hut rhyolite outcrops (51), Twofold Bay
Dendrobium aemulum	5,7S	Tanja (53)
Dendrobium pugioniforme	5,7S*	Mumbulla Mtn (?46/61)*, Wandella Ck (47), Walls Flat (63)

Species	Significance	Localities
Dendrocnide excelsa	5,7S*	400m N Grassy Hill (5), Mumbulla Ck (46)*, Wandella Ck (47), Murrah River tributary (61)
Desmodium brachypodum	5v	Quaama-Brogo Pass (63)
Deyeuxia accedens	2(3RC-),7N*	Nalbaugh Plateau (10), Brown Mtn (14)*, Mt Tennyson (21)
Deyeuxia crassiuscula	5	Wog Wog Mtn (10), Wicks Weir Rd (44), Solomons Rd (46)
Deyeuxia parviseta	5	Brown Mtn (14), Yuglamah Rd (40), Waalimma Range (57), Walla Walla trail (57)
Dillwynia juniperina	5	Waratah gully (22), Nalbaugh (50)
Dillwynia prostrata	5v	Nunnock Swamp (20)
Disphyma australe	5	Jane Spiers Beach (6), Green Cape (7), Bermagui, Merimbula
Diuris corymbosa	5,7N*	Green Glades (6), 1 km W Wonboyn (49)*, Timbillica (?55/57), Yambulla catchments (57)
Dodonaea multijuga	5,7S*,8	Bemboka Walls (34), Yowaka-Old Hut rhyolite outcrops (47,51)*
Dodonaea rhombifolia	2(3RCa)	Jingera Rock (4), Bemboka Walls (34)
Dodonaea triangularis	5,7S	Mumbulla Mtn (46)
Doryphora sassafras	7S	Head of Chalkhills Ck (58)
Drosera glanduligera	5	Twofold Bay
Ehretia acuminata	5,7S*	Grassy Hill (5), Mumbulla Mtn (46), 7.5km W Merimbula (58)*
Epacris breviflora	5	Nunnock Swamp (20), Dragon Swamp (20), Cairnlea (37), Bega Swamp (59)
Epacris microphylla var. rhombifolia	3,7S*	Nunnock Swamp (20), Bega Swamp (59)
Epacris robusta	5,7S*	Burragate Peak (4), Jingera Rock (4), Nalbaugh Plateau (10)*, Big Jack Mtn (41)
Epilobium gunnianum	5	Dragon Swamp (20), Sheep Station Ck (31) Nungatta area
Epilobium pallidiflorum	3v,6	Sheep Station Ck (31), Bega (63)
Eriostemon myoporoides	5	Nethercote Falls (18), Bemboka Walls (34), Yowaka-Old Hutrhyolite outcrops (51), Murrah (61)
Eriostemon virgatus	5,7 N *,8	Mt Imlay summit (9), 1 km N Burrawang picnic area (?9/42), Yowaka-Old Hut rhyolite outcrops (51)
Eucalyptus badjensis	2(2RCi),7S*	Brown Mtn (14), 4km ESE Bull Mtn (46), Wicks End catchment (44), Wilbob catchment (44), Mt Darragh (?40/54/64)*, New Line Rd (54)
Eucalyptus baueriana	6	W slopes of Black Range (3), Sandy Beach Ck-Jellat Jellat Ck (3), Narira Ck (12), Gnupa (45), Wapengo Ck (46),
		Bimmil area (51), 3.2 km N Burragate (51), end Waalimma
		Rd (57), Yurramie (58). Remnant stands in 63, 65 & near Pambula
Elutter bteri	7N	
Eucalyptus baxteri		The Pinnacles (7) Mt Imlay summit (8)
Eucalyptus imlayensis Eucalyptus latiuscula	1,2(2VCit) 3,7S*	
	7S	Nalbaugh Swamp (10)*, Nunnock Swamp (20)
Eucalyptus longifolia Eucalyptus maskintii		Newtons Beach (6) Canage Correct(11) Saddle Flore Pd (37)*
Eucalyptus mackintii Eucalyptus macrorhyncha	5,7 N * 5	Genoa Gorge (11), Saddle Flaps Rd (37)* Cathcart (?64)
	7LS	Near Yellow Pinch (58) [Neilsen Rd (8)]
Eucalyptus maculata Eucalyptus maidenii	7LS 9	Dobbyns Rd on basalt (51)
Eucalyptus maidenii Eucalyptus melliodora	5,9	Upper Towamba valley (65) -a coastal occurrence
Eucalyptus melliodora Eucalyptus paniculata ssp. paniculata	5,7S*	Near Nelson Lagoon (8)*, 3km N Nelson Ck/Tathra Rd (8), Bermagui (35)
Eucalyptus parvifolia	2(2VCi),7S	Dragon Swamp (20)
Eucalyptus pilularis	7S	Nadgee (6), [near Bellbird gully (7)]
Eucalyptus pseudoglobulus	5,7N	Nadgee River (6)
Eucalyptus rubida	5	Waratah Ck (22), Bondi Gulf (25), Coolunbooka (60), 3km W
J. T. J. T.		Mt Darragh (64)

Species	Significance	Localities
Eucalyptus stellulata	5	Nunnock Swamp (20), Waratah Ck (22), Cairnlea (37), Collumbooka (60), 5km from Nimmitabel towards Bombala (64)
Eucalyptus stenostoma	5,7S	Near Pigeon Box (34)
Eucalyptus tereticornis	6	Kianinny Bay (13), Merimbula Beach. Remnant stands in Bega valley (63) & near Pambula
Eucalyptus ignorabilis	3,7N*	Merrica River (6), Bens Ck (55), Dinner Ck (55), near Timbillica Stn (57), Imlay Ck/Wallagaruagh River (57)*, Allan Brook crossing (57)
Eucalyptus conspicua	3,7N*	Duck Hole Rd (7), 4km S of Narrabarba (49), Sidlings Swamp (55), 3km N of Wallagaraugh River on Hwy (55), near Timbillica (57)
Eucalyptus sp. aff. globoidea Eucalyptus polyanthemos ssp.	3,7N 7N	Newtons Beach (6) Rocky Hall trail (41), Bruin Mtn (41)
vestita	# 0	N N 10 (00) P 1 0 (11)
Eucalyptus croajingalensis Eucalyptus spectatrix	7S 1	Near Nunnock Swamp (20), Packers Swamp (44) Bemboka Walls (34), Mumbulla Mtn (46), hill N of Mumbulla Mtn (61), Dr George Mtn
Eucryphia moorei	3v	SE of Burragate Peak (4), upper Table Ck (6), upper Nadgee River (6), Maxwells Ck (16), Royds Ck (16), Watergums Ck (23), Wandella Ck (27), Mumbulla (46), Back Ck Trail (51), SW Yambulla (57)
Euphrasia collina ssp. collina	7N	Twofold Bay, [Saltwater Ck (7), East Boyd -E of Hwy (42)]
Festuca as perula	3	Tantawangalo Mtn (54), Letts Mtn (57)
Festuca eriopoda	5v	Brown Mtn (14), Six Mile Ck (54)
Festuca hookeriana	5	Brown Mtn (14), Dragon Swamp (20)
Ficus rubiginosa	7S	Mt Pericoe (28)
Gahnia aspera	5,7S*	Bunga Head-Aragunnu Ck (8), Yellow Pinch (58)*, Murrah River tributary (61)
Gahnia subaequiglumis	5v	Mt Imlay summit (9), Nunnock Swamp (20), Coolumbooka (60)
Gaultheria appressa	5	Mt Imlay (9), Nalbaugh Plateau (10), Nungatta Mtn (11), Nalbaugh (50)
Gentianella diemensis	5	Nalbaugh Swamp (10), Dragon Swamp (20), Nunnock Swamp (20), Bega Swamp (59)
Geranium antrorsum	5	Near Nunnock Swamp (20), Big Jack Mtn (41), Bega Swamp (59)
Geranium retrorsum	5	Bega area (?63)
Gleichenia rupestris	5,7S*	Nadgee (6)*, Green Cape (7)
Goodenia elongata	7N	Head of Reedy Ck (41)
Goodenia hederacea var. alpestris	5	Nunnock Swamp (20), Tantawangalo Mtn (54), Coolumbooka (60)
Goodenia hederacea var. hederacea	5,7S	Head of Cuttagee (48)
Goodenia humilis	5	Green Cape (7), Sheep Station Ck (31)
Goodenia paniculata	5	Cape Howc (6), Allan Brook crossing (57)
Grevillea acanthifolia ssp. paludosa	1	Nalbaugh Swamps (10)
Grevillea miqueliana	5	Yowaka-Old Hut rhyolite outcrops (51)
Grevillea mucronulata	5,7S*,8	3km N Merimbula (?3), Mimosa Rocks (8), Hwy S of Eden*
Grevillea parviflora	5	White Rock River (37), Nullica (51), Indigo Ck crossing (57), Wallagaraugh River (57)
Haemodorum planifolium	5,7S	Near Bellbird trig (7)
Hakea macraeana	7S	Adjacent to Nadgee Moor (6)
Hakea ulicina	7N	Green Cape (7), East Boyd (42)
Haloragis heterophylla	5	Dragon Swamp (20), Sheep Station Ck (31), Coolumbooka
, ,		(60)

Species	Significance	Localities
Haloragodendron baeuerlenii	2(3RCa)	Big Jack Mtn (41), Mumbulla Mtn (46), Brogo Pass (63), Dr George Mtn
Haloragodendron	3,7S	Coolumbooka Range (60)
monospermum Helichrysum acuminatum	5	Nalbaugh Swamp (10), Nunnock Swamp (20), Dragon Swamp (20), Bega Swamp (59)
Helichrysum apiculatum	5	Nadgee (6), 9km E Cathcart (64), McLaughlin River (64), Dr George Mtn
Helichrysum baxteri	7N	Bimmil area (51)
Helichrysum collinum	5,7S,8	2km WNW Murrah River/Mumbulla Ck (61)
Helichrysum conditum	5	Head of Neenah Ck (11), 3km SW Nungatta trig (11)
Helichrysum diosmifolium	7S	Yambulla catchments (57)
Helichrysum obtusifolium	7N	Saltwater Ck (7)
Helichrysum paralium	7N	3.5km SE Tanja (8)
Helichrysum rosmarinifolium	5,7LN*	Nalbaugh Swamp (10)*, Sheep Station Ck (31), western Bondi (37), Sidlings Swamp (55)
Helichrysum thyrsoideum	5	Nungatta (11), Cairnlea (37)
Hibbertia hermanniifolia	2(3RCa)	Mt Cathcart & surrounds (40), Tantawangalo (54), Mt Poole (57)
Hibbertia saligna	3,7S,8	Mt Imlay summit (9)
Hibbertia serpyllifolia	5	Impressa Moor (6), Pinnacles (7), Yambulla (57)
Hibbertia sp. aff.	1	Yowaka-Old Hut rhyolite outcrops (51) (taxonomic status to be
hermanniifolia		determined)
Hovea beckeri	3	Wog Wog Mtn (10), Bondi Gulf (25), Myanba Ck (41), Indige Ck crossing (57)
Hovea longifolia	5,7S,8	Waalimma Range (57)
Hybanthus monopetalus	5	S of Kianniny Bay (13), Mumbulla (46), Dr George Mtn
Hydrocotyle algida	5	Dragon Swamp (20)
Isachne globosa	3	Sheep Station Ck (31), Link Rd (49), Bega area (?63)
Isolepis aucklandica	5	Nadgee Lake (6), Dragon Swamp (20)
Isolepis crassiuscula Isopogon prostratus	5 3v	Brown Mtn (14) Newtons Beach (6), Nadgee Moor (6), Green Cape (7). Nethercote Falls (18), White Rock River (37), Mt Nadgee
Isotoma fluviatilis ssp.	5	(49) Sth Ben Boyd (7), Nunnock Swamp (20), Coolumbooka (60)
australis		
Juncus falcatus	5	Dragon Swamp (20), Bega Swamp (59), Coolumbooka (60)
Juncus fockei	5	Sheep Station Ck (31), head of Reedy Ck (41), Bens Rd (55)
Juncus homalocaulis	5	Lower Nungatta Ck (11), Hopping Joe Ck (37)
Juncus vaginatus	5	Nadgee (6), Bega Swamp (59)
Juncus sp. F	5	Dragon Swamp (20)
('phaeanthus' ms)	_	TAY
Juncus sp. (aff. sandwithii)	5	Western Bondi (37)
Korthalsella rubra	3v	Watergums Ck (49), 1 km SE Ben Boyd Rd/Dobbyns Rd (51)
Kunzea parvifolia	5	Warburton Rd (41)
Kunzea sp. C (aff. capitata)	5,7S	Near Pigeon Box (34) Yowaka River (51)*, Bermagui
Lasiopetalum parvifolium Laxmannia sessiliflora	3,7S* 5,7N*	Mt Nadgee (6), Saltwater Ck (7), near Sidlings Swamp (55)
Lepidium pseudotasmanicum	5	Kings Ridge Rd (8) 2km SW Pambula Beach (62)
Lepidosperma flexuosum	5	Lower Nadgee River (6)
Lepidosperma forsythii	5	Nadgee Lake (6), Sidlings Swamp (55), near Timbillica Stn (57)
Lepidosperma gladiatum	7N	Pambula [Jane Spiers Beach (6)]
Lepidosperma semiteres	7N	Saltwater Ck (7), Duck Hole Rd/Saltwater Ck Rd (7)
Leptorhynchos nitidulus	5,7S	Nahgi Rd (49), Eden
Leptospermum laevigatum	7LN	Green Cape (7)
Leptospermum myrsinoides	7N	Duck Hole Rd (7), Green Cape Rd (42)
Leptospermum polygalifolium	7S	Sheep Station Ck (31), Imlay Rd (57), Pericoe Rd (57)

Species	Significance	Localities
Leptospermum scoparium	7N	Nethercote Falls (18)
Lepyrodia scariosa	5,7S*	Merrica River crossing (6), Nadgee Moor (6)*, Green Cape (7), Mt Nadgee (49)*
Leucopogon attenuatus	5,8	Nethercote Falls (18), White Rock Falls (37), Yowaka-Old Hut rhyolite outcrops (51), Mt Poole (57)
Leucopogon collinus	5,7LN*	Duck Hole Rd/Green Cape Rd (42)*, Yambulla catchments (57)
Leucopogon gelidus	5	Mt Imlay summit (9), Wog Wog Mtn (10), White Rock Mtn (10), near Mines Rd (49)
Leucopogon setiger	5,7S,8	Yowaka-Old Hut rhyolite outcrops (51)
Leucopogon suaveolens	5	Nalbaugh Plateau (10), Waratah gully (22), Cairnlea (37), Bull Mtn (44)
Lilaeopsis polyantha	5	Dragon Swamp (20), Sheep Station Ck (31), Tantawangalo Ck (44), Coolumbooka (60), Twofold Bay
Limonium australe	3	Wonboyn Lake (6), Wallagoot Lake (13), Bermagui River, Twofold Bay
Linum marginale	5	Nadgee (6), Yambulla catchments (57)
Liparis reflexa	7S	Murrah River tributary (61)
Livistona australis	5v	Grassy Hill (5), Bunga Head (8), Mumbulla Ck (46), Wapengo Ck (46), Tanja
Lobelia dentata	7S	Nadgee (6,49), Wangarabell Trail (57)
Logania pusilla	5v	Smiths Rd/Lizard Rd (46), Germans Ck (57)
Lomandra confertifolia ssp. rubiginosa	7S	Near Nadgce Moor (6)
Lomandra confertifolia ssp. similis	7S	Near Sandy Beach Ck (3)
Lotus australis	5	Tantawangalo (54), Nimmitabel (64), Bombala (64)
Luzula modesta	5	Eastern Bondi (37)
Luzula ovata	5	SW Nungatta Mtn (11), Dinner Ck (55)
Lycopodium varium	5v	Nalbaugh Plateau (10), Pheasants Peak (41)
Macrozamia communis Marsdenia suaveolens	7S 7S	Kianniny Bay (13) Waalimma Rd (57)
Mazus pumilio	5	Nadgee (6,49), Saltwater Ck (7), 'Nungatta'
Melaleuca hypericifolia	7S	Evans Hill (Tathra)
Mentha diemenica	5	Sheep Station Ck (31), Head of Reedy Ck (41), Brittens Trail (46), Candelo Ck (54)
Micromyrtus ciliata	5	Bemboka Walls (34)
Mimulus repens	5	Nadgee Lake (6), Wallagoot Lake (13), Bermagui, Twofold
		Bay
Mirbelia pungens	5	3.7km W Bemboka Peak (34), Yowaka-Old Hut rhyolite outcrops (51)
Mitrasacme serpyllifolia	3	Nunnock Swamp (20), Sheep Station Ck (31), Tantawangalo Mtn (54)
Monotoca elliptica	9	Mt Imlay summit (8)
Montia australasica	5	Bondi Gulf (25), Sheep Station Ck (31), Tantawangalo Ck (54)
Myoporum acuminatum	7S	Reedy Ck (41)
Myoporum bateae	3,7S*	Nelson Lagoon (8), Rocky Hall Trail (41), Mt Pericoe (28)*, 2km WNW Murrah River/Mumbulla Ck (61), near Wapengo Lagoon
Myosotis australis	5	Nadgee (6), Big Jack Mtn (41), Dragon Swamp Rd (54), head of Solomons Ck (54)
Notelaea longifolia	5,7S*	Bunga Head (8), Aragunnu Ck (8), Mt Pericoe (28)*, Eden
Notothixus subaureus	5v	Nadgee (6), Saltwater Ck (7), Bega area, 1 km S of Eden
Olax stricta	5v	Long Beach (7), Saltwater Ck (7), Green Cape (7)
Olearia alpicola	5	Waratah gully (22), S Rockton section (37), western Bondi in
		streamside reserve (37) Tura Beach (13), Bermagui area

Species	Significance	Localities
Olearia glandulosa	5	Sheep Station Ck (31), S Rockton section (37), Compartment 1370 (40), Snob Ck (57)
Olearia rugosa	5,7N*	Nadgee Lake (6), Mt Imlay summit (9)*
Omalanthus populifolius	5,7S*	Bellbird Gully (1), Jane Spiers Beach (6), Head of Table Ck (6)*
Opercularia diphylla	5,7S	Twofold Bay (?7/42)
Oreomyrrhis ciliata	5	Dragon Swamp (20)
Oxylobium scandens	3,6,7S	3.2km NE Tanja (46)
Parietaria debilis	5	Mt Imlay summit (9), Stanton Rock (51)
Parsonsia straminea	5,7S*	Murrah River tributary (61), Wicks End catchment (44), Cebs catchment (44), Wilbob catchment (44)*
Pellaea falcata var. nana	5	Maxwells or Watergums Ck (?16/23), Lizard Rd (46), 3.5km NNW Sugarloaf (51)
Persicaria subsessilis	5	Nadgee (6), Palestine Ck (51), Nungatta
Persoonia brevifolia	2(2RCa),4,7N*	Mt Imlay summit (9), Wog Wog Mtn (10), Nalbaugh Plateau (10)*, Nungatta Mtn (11)
Persoonia juniperina	7N	Laings Rd (37)
Persoonia ('asperula' ms)	5v	Near Bega Swamp (59)
Phebalium carruthersii	2(3RC-),7S*	Mt Pericoe (28)*, 2km ESE Mumbulla Mtn (46), Lizard Rd (46), Dr George Mtn
Phebalium diosmeum	7S	Lower Table Ck (6), Top Moor (6)
Phebalium phylicifolium	5	Nunnock Swamp (20)
Phebalium ralstonii	1,2(2VCi)	Jingera Rock (4), Nethercote Falls (18), Yowaka-Old Hut rhyolite outcrops (15,51)
Phebalium rhytidophyllum	1,2(2VCit)	Nalbaugh Plateau (10)
Phebalium squamulosum ssp. argenteum	5v	Jane Spiers Beach (6), Michael Lagoon lookout -S of Bermagui
Phebalium squamulosum ssp. squamulosum	5	Head of Nadgee River (6), Maxwells Ck (16), Nahgi Rd (49)
Philotheca salsolifolia	5,7S*	Bemboka Walls (34)*, Desert Ck escarpment (34)
Pimelea curviflora ssp. gracilis var. sericea	5	Bemboka Walls (34), Bombala (64), Twofold Bay area
Plantago hispida	5	Mouth of Little Ck (6), Saltwater Ck (7), Tathra Beach, Twofold Bay
Platycerium bifurcatum	5,7S	Bunga Head (8)
Plectranthus graveolens	7S	2.5km S Burragate Pk (4), Reedy Ck (41)
Plinthanthesis paradoxa	5v	3km S Nadgee River (6), Impressa Moor (6), Duck Hole Rd (7)
Poa affinis	5,7S*	Mouth of Nadgee River (6)*, mouth of Little Ck (6), Nungatta (11)
Poa cheelii	5,7S*	Nethercote Falls (18)*, Yowaka-Old Hut rhyolite outcrops (51)*, Chalkhills Rd (58), Wapengo-Tanja, Cuttagee-Bunga
Poa costiniana	5	Dragon Swamp (20)
Poa helmsii	5	Imlay Rd (31), Packers Swamp Rd/Experimental catchment Rd (44)
Podocarpus spinulosus	5,7S*	The Pinnacles (7), Broadwater Rd (51)*
Pomaderris angustifolia	5	Nungatta (11), Genoa River (37)
Pomaderris betulina	5	Nadgee (6), Bunga trig (8), Wallagaraugh River/Imlay Ck (57), Yambulla catchments (57)
Pomaderris brogoensis	2(3RC-),4,7S*	Merrica River crossing (6)*, 6.7km E of Bemboka Peak (34), Brogo Pass (63), Twofold Bay
Pomaderris cinerea	7S	Mt Imlay (9)
Pomaderris costata	2(3VC-)	Jingera Rock (4), Mt Imlay (9), Neenah Ck (11), Pheasants Peak (41), eastern Coolangubra (41), Cebs catchment (44), Wicks End catchment (44), Mt Poole (57), Letts Mtn (57),
Pomaderris cotoneaster	2(3VC-)	upper Chalkhills Ck (58) Neenah Ck (11), Reedy Ck (41), Tantawangalo weir (54)

Species	Significance	Localities
Pomaderris discolor Pomaderris elachophylla	5v 5,7N*	Wallagaraugh River (57), 1 km S Pambula (62), Wog Wog Stn Nalbaugh Plateau (10), Myanba Ck (41), near Tantawangalo Mtn (54)*
Pomaderris eriocephala	5	Genoa River (11,37), upstream of White Rock Falls (37), Tantawangalo Ck/Postmans Trail (46), Tantawangalo Weir (54)
Pomaderris ledifolia	5v	Yowaka-Old Hut rhyolite outcrops (51), Mt Poole (57), 4.8km W Mt Poole (57)
Pomaderris parrisiae	2(2VC-),4,7S*	Jingera Rock (4)*, Green Cape Rd (?7/42), Pipers Lookout (14), Big Jack Mtn (41), Wilbob Ck track (46)
Pomaderris pauciflora Pomaderris virgata	2(3RC-) 2(2RC-),4,7S*	Genoa River (11), White Rock River (37) Jingera Rock (4), 1.6km SW Burragate Peak (4), Wog Wog Mtn (10), Jingera (15), Mumbulla (46), 2.5km NE Mt Poole (57)*, Wolumla Peak (58), Dr George Mtn (53)
Pomaderris sp. aff. andromedifolia	3,7S*	Merrica River crossing (6)*, Wallagaraugh River/Imlay Ck (57)
Pomaderris sp. aff. cinerea	3,4,7S*	Bemboka (34), Reedy Ck (41)*, Tantawangalo Ck (46)
Prasophyllum sp. aff. morrisii	1,2(2E) 5	Old Hut Ck rhyolite outcrop (51) Waratah Ck (22), Head of Chalkhills Ck (58)
Pratia pedunculata Prostanthera decussata	5v	Nadgee (6), eastern Coolangubra (41), Yambulla catchments (57)
Prostanthera nivea	5	Yowaka-Old Hut rhyolite outcrops (15), Nethercote Falls (18), Lochiel
Prostanthera ovalifolia	5,7S*	Harrys Hut (6), Bemboka Walls (34), Desert Ck escarpment (34), 4km NE Mt Nahgi (49)*
Prostanthera phylicifolia	5	Jingera Rock (4), Yowaka-Old Hut rhyolite outcrops (51), Mt Poole (57)
Prostanthera rotundifolia	5	Nadgee (6), upstream of White Rock Falls (37), Genoa River (37), Yowaka-Old Hut rhyolite outcrops (51)
Prostanthera sieberi	5,7S	3km E Bega-Bermagui Rd (?8/46/48), Dr George Mtn
Prostanthera walteri Pseudanthus divaricatissimus	2(3RCa),7N 2(3RCa)	Mt Imlay (9), Nalbaugh Plateau (10) Merrica River crossing (6), Newtons Crossing (6), 2 km ESE Narrabarba (17), Nethercote Falls (18), Yowaka-Old Hut rhyolite outcrops (51), Mt Poole (57)
Pseuderanthemum variabile	7S	Nelson Ck (8), Mumbulla Ck Rd (46)
Psoralea adscendens	5	Cairnlea (37), W of Big Jack Mtn (41), Packers Swamp Rd (46), Cathcart
Psychotria loniceroides	7S	Wapengo Ck (46)
Pterostylis plumosa Pultenaea altissima	5,9 5v,9*	Green Cape (7) — coastal occurrence Nungatta Ck-Genoa River (11) — low altitude locality*, Nunnock Swamp (20)
Pultenaea benthamii	7N	Bemboka River headwaters (44)
Pultenaea blakelyi	5,7S	S end Black Range (3), N of Milligandi Rd (52)
Pultenaea capitellata	5v	Nunnock Swamp (20), Tantawangalo Mtn (54)
Pultenaea dentata	5	Impressa Moor (6), Nadgee Lake (6), Cape Howe (6), Sheep Station Ck (31)
Pultenaea elliptica Pultenaea hispidula	5,7S	Nutleys Ck (48) Tura Beach Rd (13), Watergums Ck (49), 1.5 km N Merimbula
Pultenaea paleacea var. sericea	5	Endeavour Moor (6), Sheep Station Ck (31), upper Genoa River (?37)
Pultenaea paludosa	5v	Nadgee (6), Duck Hole Rd (7), near Mt Imlay (?42/55), Compartment 425 (57)
Pultenaea subspicata	5v	Mt Darragh (?40/54)
Pultenaea subumbellata	5	Nalbaugh Swamp (10), Sheep Station Ck (31), Brown Mtn area (44)
Pultenaea villifera	2(3RC-),7S,8	Yowaka-Old Hut rhyolite outcrops (15,51)
Ranunculus inundatus Ranunculus pimpinellifolius	5	Nungatta Ck (11), Walla Walla Trail (57) Dragon Swamp (20), Sheep Station Ck (31)
ranamana pempenenegonas	J	Drugon Swamp (20), Sheep Station Ck (31)

Species	Significance	Localities
Ranunculus rivularis	5	Sheep Station Ck (31), Wog Wog trail (41), Tantawangalo Ck (44), swamps near Brown Mtn (44), Coolumbooka (60)
Restio tetraphyllus ssp. tetraphyllus	5,7N*	Merrica River (6), Green Cape Rd (7/36)*, Nadgee (49)
Rhagodia candolleana	9	Reedy Ck (41), Willeroo (65) — non-coastal localities
Rorippa dictyosperma	5	Brown Mtn (?14/44)
Rulingia hermanniifolia	2(3RCa),7S,8	Yowaka-Old Hut rhyolite outcrops (15), Nethercote Falls (18)
Santalum obtusifolium	5	S end Black Range (3), 1.2km S Grassy Hill (5), Nadgee (6), Mumbulla Ck/Murrah River (46), Wolumla Pk Rd/Pam- bula River (58), Rocky Hall trail
Sarcochilus australis	5,6	Lower Nadgee River (6), Stanton Rock (51), Letts Mtn (57), Bega area
Sarcochilus hillii	6	Murrah River tributary (61), Tathra
Sarcochilus olivaceus	5,6,7S*	Nadgee River (6)*, Bunga Head (8), heads of Maxwells & Royds Cks (16)* Mumbulla (46), Murrah River tributary (61)
Sarcomelicope simplicifolia	5,7S	Murrah River tributary (61)
Scaevola albida	5	Swamp in Nadgee (6), Yambulla catchments (57)
Scaevola calendulacea	5,7S	Newtons Beach (6), Bermagui
Schizomeria ovata	5,7S	2km WSW Horses Head Rd/Murrah River Rd (48)
Schoenoplectus validus	5	Swamp in Nadgee (6), Bega River (63), 10km NW Towamba (65)
Schoenus moorei	5,7S*	Near Wonboyn (6), Impressa Moor (6)*, Saltwater Ck (7)
Schoenus nitens	5	Merrica River crossing (6), near Newtons Beach (6), Cape Howe (6), Nelson Lagoon (8)
Schoenus pachylepis	7S	Impressa Moor (6)
Schoenus turbinatus	5v	Mt Victoria trig (6), Edrom Rd (42), Mt Naghi (49), Yambulla catchments (57)
Schoenus villosus	5,7S	Top Moor (6)
Scleranthus biflorus	5	Sheep Station Ck (31), Dragon Swamp (20), Bull Mtn (46), Coolumbooka (60)
Sclerostegia arbuscula	5	Nelson Lagoon (8), Wapengo Lagoon, Merimbula
Scutellaria humilis	5	Stanton Rock (51), Two Bridges Ck (54)
Senecio glomeratus	5	Cape Howe (6), Nunnock Swamp (20), Sheep Station Ck (31)
Senecio spathulatus	5,7N	Cape Howe (6)
Senecio squarrosus	5	Cape Howe (6)
Sicyos australis	5v	Narira Ck (12), Rocky Hall Trail (41), Kiah (65), Bega area(?63)
Solanum stelligerum	5,7S*	Mouth of Narira Ck (12), Short Point Beach (Merimbula)*
Solenogyne gunnii	5	Sth Ben Boyd (7), Big Jack Mtn (41), Coolumbooka (60)
Sparganium subglobosum	3	Sheep Station Creek (31), Brockelos Ck (48)
Spyridium cinereum	2(3RCa)	Newtons Beach-Little Ck (6), 1.5km N Nadgee River (6), Endeavour Moor (6)
Stellaria angustifolia	5	Nungatta (11), Sheep Station Ck (31), Reef Ck (37), western Bondi in streamside reserve (37), Imlay Ck (57)
Stellaria multiflora	3	Stanton Rock (51)
Stephania japonica var. discolor	7S	2.5km N of Haycock Hill (7), Nungatta (11)
Sticherus flabellatus	5v	Bellbird Ck (1), Merrica River (6), Sth Ben Boyd (7), Yowaka- Old Hut rhyolite outcrops (51)
Sticherus tener	5	Nadgee (6), Nungatta (11), Watergums Ck (23)
Stipa semibarbata	5	Nadgee (6), E of Nunnock Swamp (20)
Styphelia adscendens	5	Imlay Rd (37), near Wallagaraugh River (57)
Styphelia sp. 1	2(3RC-),7S,8	Nalbaugh Plateau (10)
Symphionema paludosum	5,7S*,8	Nadgee River (6)*, Table Mtn (6), Mt Nadgee (6,49)*, Duck Hole Rd (7)
Symplocos thwaitesii	5v	Wapengo Ck (46)

Species	Significance	Localities
Synoum glandulosum	7S	1.5km W Tathra Rd/Neilsen Rd (8), 4km W Dr George Mtn (63)
Tetrarrhena acuminata	3,7N*	Head of Merrica River (6), Nalbaugh Swamp (10)*, near Bondi Gulf (37)
Tetrarrhena turfosa	5	Nalbaugh Swamp (10), Sidlings Swamp (55)
Tetratheca labillardierei	5	SW spur Nungatta Mtn (11)
Tetratheca subaphylla	3	Mt Imlay summit (9), Nalbaugh Plateau (10), Big Jack Mtn (41), Goanna Rd (42), Yowaka-Old Hut rhyolite outcrops (51)
Tetratheca thymifolia	7Sv	Stringy Rd/Maxwells Rd (49)
Thelionema umbellata	5v	Nadgee (6,49), Nunnock Swamp (20), Warburton Rd (41)
Thysanotus juncifolius	5	Top Moor (6), 8km N Eden (?7/51)
Tmesipteris ovata	5v	8km E Timbillica (16), Nadgee (49)
Tmesipteris truncata	3,7S	SE of Burragate Peak (4)
Trachymene humilis	5	Cairnlea (37), MacLaughlin River (64)
Tricostularia pauciflora	5	Newtons Beach-Little Ck (6), Yambulla catchments (57),
, ,		Wallagaraugh River/Princes Hwy
Trisetum spicatum	5	Dragon Swamp (20)
Tristaniopsis collina	5,7S	Murrah River Rd (48)
Trochocarpa laurina	5,7S	Murrah (48)
Typha domingensis	5	Pipeclay Ck -S of Pambula (63)
Utricularia lateriflora	5	Nadgee (6), White Rock River (37), Bens Ck (55), Indigo Ck
		crossing (57)
Velleia montana	5	Nunnock Swamp (20)
Vernonia cinerea	7S	Saltwater Ck (7), Sheep Station Ck (31)
Villarsia exaltata	5	Nadgee Lake (6), Cape Howe (6), Sth Ben Boyd (7)
Villarsia reniformis	5	Nunnock Swamp (20), Snob Ck (31), Timbillica (55), north- ern Yambulla (57)
Viola caleyana	5v	Nunnock Swamp (20), Sheep Station Ck (31)
Viola cleistogamoides	5,7N	Wonboyn (?6/49)
Vittadinia cuneata var.	5	Goats Knob Rd/Neilsen Rd (8), Nelson Lagoon (8), Pambula River (62), Eden area
Wahlenbergia gloriosa	5	Bega Swamp (59), 9km E Cathcart (64)
Wahlenbergia luteola	5	Mt Imlay (9)
Wahlenbergia multicaulis	5	Nimmitabel-Brown Mtn (?46/64)
Westringia davidii	1,2(2V)	Yowaka-Old Hut rhyolite outcrops (15,47,51)
Westringia fruticosa	7S	Nadgee Lake (6)
Wilsonia backhousei	3,8	Bermagui, Twofold Bay
Xanthorrhoea concava	7S	Wangarabell Rd (57), Yambulla catchments (57)
Xanthosia atkinsoniana	5,7S	Bermagui (2), 1 km SE Boundary Bridge (5), Dignams Ck- Wallaga Lake (12), Murrah (48)*
Xanthosia pusilla	5,7N*	Impressa Moor (6), Bay Cliff (6), Green Cape (7)*
Zieria arborescens	5	Wog Wog Mtn (10), Nethercote Falls (18), Wandella Ck (27), Big Jack Mtn (41), Rocky Hall (?41/65)
Zieria cytisoides ssp. cytisoides	5,7S*	Bemboka Walls (34), Big Jack Mtn (46)*, Mumbulla Mtn (46)
Zieria cytisoides ssp. littoralis	4v,7N*,9**	Disaster Bay (6), Jane Spiers Beach (6), Green Cape (7), Saltwater Ck (7), Bengunnu Pt (8) Bunga Head (8)*, Bournda (13), Narrabarba Hill -non littoral locality (17)**, Jews Head (S of Eden), Tathra
Zieria fraseri ssp. compacta	5,7S*,8	Nethercote Falls (18)*, Bemboka Walls (34)
Zieria pilosa	5,7S ,0	3km W Saltwater Ck (7)
Zieria sp. 7	1,2(2E)	Lochiel
Zieria sp. 14	1,2(2E) 1,2(2E)	Box Range, north (W of Pambula)
Zieria sp. 15	1,2(2E) 1,2(2E)	Box Range, south (W of Pambula)